

Healthy Life Expectancy in Rhode Island

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During the 20th century, life expectancy in the United States increased dramatically, from 47 years in 1900 to 77 years in 1998.¹ Most of this increase occurred in the first half of the century. During the second half of the century there have been more modest increases in life expectancy, but significant increases in the number and prevalence of chronic diseases that diminish quality of life.^{1,2} Recognizing this reality, the first overarching goal of Healthy People 2010 and Healthy Rhode Islanders 2010 is to “increase quality and years of healthy life,” that is, to increase healthy life expectancy (HLE).^{1,2}

Traditionally, life tables have been used to estimate remaining life expectancy at each age. However, a traditional life table cannot determine how many of the remaining years of life will be healthy years. In recent years, a method has been devised to represent overall population health in a single number, that is, to calculate HLE by combining the life table (mortality) with a population-based measure of health status (morbidity).^{1,2} This paper presents updated average life expectancy for Rhode Island residents, and for the first time, average healthy life expectancy for Rhode Islanders.

Methods. Age-specific Rhode Island mortality data for 2000-2004 were used to produce abridged life tables for Rhode Island, using 17 five-year age groups instead of single years, and a last open age group (85+) assumed to be 15 years. Details of the life table calculations are available elsewhere.^{1,2}

The Behavioral Risk Factor Surveillance System (BRFSS) is a national telephone survey of randomly selected non-institutionalized adults (ages 18 and older). The BRFSS monitors the prevalence of behavioral risks that contribute to the leading causes of disease and death among adults in the United States. It is administered by all 50 states and by 4 U.S. territories with funding and methodological specifications provided by the Centers for Disease Control and Prevention (CDC).³

BRFSS asked the question, “Would you say that in general your health is: excellent, very good, good, fair, or poor?” Responses of “Good”, “Very Good”, and “Excellent” to this general health status question were combined to produce age-specific percentages of “perceived good health” as well as age-sex-specific percentages. (For persons under age 18, who are not surveyed on the BRFSS, the percentage in perceived good health was estimated as the highest percentage for any adult age group.¹) Several years of data (1993 – 2004) were pooled to improve the stability of the age-specific estimates.¹ The age-sex-specific estimates of “perceived good health” were used with age-sex-specific mortality data to calculate HLE by age and sex, following procedures developed by the National Center for Health Statistics (NCHS).²

Results. Figure 1 shows the percentage in “perceived good health” in each 5-year age group for both sexes combined. The age-sex-specific estimates (www.health.ri.gov/chic/statistics/life-expectancy.php) were used to adjust the average life expectancy to create the average HLE for age-sex-specific groups as well as overall.¹

Table 1 presents the average life expectancy and average healthy life expectancy at each age group (age-sex-specific life expectancy and HLE estimates are also available at www.health.ri.gov/chic/statistics/life-expectancy.php). The average overall life expectancy in Rhode Island at age 0-4 is

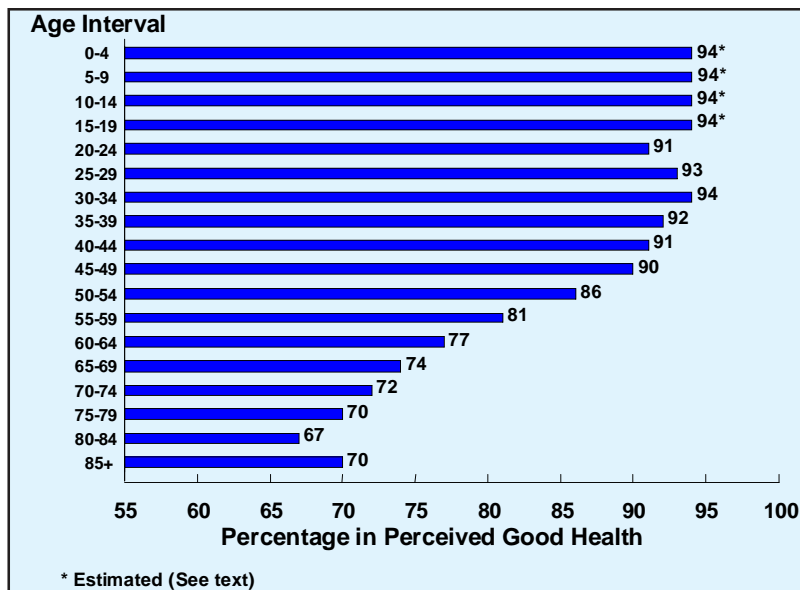


Figure 1. Percentage of population in perceived good health, by age, Rhode Island, 1993-2004.

Table 1.
Life Expectancy (2000-2004) and
Healthy Life Expectancy (1993-2004),
by Age, Rhode Island.

Age Interval (years)	Life Expectancy (years)	Healthy Life Expectancy (years)
0-4	77.8	67.2
5-9	73.3	63.0
10-14	68.4	58.4
15-19	63.4	53.7
20-24	58.6	49.2
25-29	53.7	44.7
30-34	48.9	40.3
35-39	44.1	35.8
40-44	39.4	31.4
45-49	34.8	27.2
50-54	30.3	23.1
55-59	25.9	19.3
60-64	21.7	15.8
65-69	17.8	12.7
70-74	14.2	10.0
75-79	11.0	7.6
80-84	8.0	5.5
85+	5.3	3.7

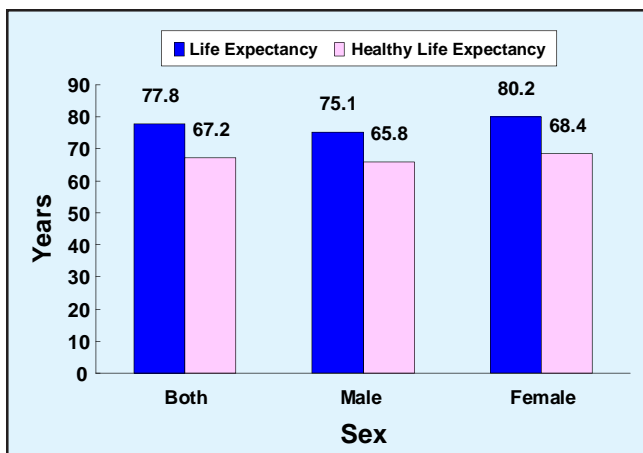


Figure 2. Life expectancy (2000-2004) and healthy life expectancy (1993-2004) at ages 0-4, by sex, Rhode Island.

77.8 years. The average healthy life expectancy is 67.2 years. In other words, of the 77.8 years of life expected at age 0-4, 10.6 years will be spent in a state where health status is perceived to be fair or poor.

Figure 2 shows the differences in life expectancy and healthy life expectancy by sex in Rhode Island for those ages 0-4 years. Females can expect to live 5.1 years longer than males. Healthy life expectancy is also longer for females, by 2.6 years. However, females can also expect to spend 2.5 more years in fair or poor health than males (11.8 years for females, vs. 9.3 years for males).

Discussion. The current life expectancy at age 0-4 for Rhode Islanders of 77.8 years (75.1 for males, 80.2 for females) represents an increase in life expectancy over the past two decades. The National Center for Health Statistics calculated the life expectancy of Rhode Islanders for 1989-91 as 76.5 years (73.0 for males, 79.7 for females); for 1979-81 RI life expectancy was 74.7 years (70.0 for males, 78.3 for females).^{4,5}

For the overall Rhode Island population, of the 77.8 years of life expected, an estimated 67.2 years will be spent in a healthy status. Females will spend more years in an unhealthy state than males. This result is consistent with findings of other studies.¹

There are several limitations to using the BRFSS data for estimating healthy life expectancy. First, there is no survey information on perceived good health for persons under age 18 in Rhode Island. It is likely that our method underestimates HLE for the under 18 age groups. Second, persons in households without a telephone are not included in the BRFSS. Such persons are likely to be from lower income households, and likely to have more health problems than those from higher income households. Excluding them from the survey may overestimate healthy life expectancy for adult age groups. Third, the BRFSS does not include institutionalized populations such as the military, incarcerated persons, and those living in nursing homes, dormitories, etc.

Combining mortality data and BRFSS data on general health status provides a way to calculate HLE. The estimates presented here are the first such calculations for Rhode Island residents and can serve as a baseline for tracking progress toward Healthy Rhode Islander 2010 goals. If HLE is periodically calculated, increases in HLE can reflect improvements in the health of Rhode Islanders that are not reflected in simple estimates of life expectancy alone.

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References

1. Buescher PA, Gizlice Z. Healthy Life Expectancy in North Carolina, 1996-2000. SCHS Studies, no. 129. Raleigh, NC: North Carolina Public Health, State Center for Health Statistics. January 2002.
2. Molla MT, Wagener DK, Madans JH. Summary measures of population health: Methods for calculating healthy life expectancy. Healthy People Statistical Notes, no. 21. Hyattsville MD: National Center for Health Statistics. August 2001.
3. CDC's BRFSS website: <http://www.cdc.gov/brfss>.
4. National Center for Health Statistics. U.S. decennial life tables for 1989-91, vol. II. State life tables no. 40, Rhode Island. Hyattsville MD. 1998.
5. National Center for Health Statistics. U.S. decennial life tables for 1979-81, vol. II. State life tables no. 40, Rhode Island. Washington DC: U.S. Government Printing Office. 1986.

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